

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A rolled steel sheet pile, comprising:

a first end flange;

a second end flange;

a first joint formed at an edge of said first end flange; and

a second joint formed at an edge of said second end flange, each of said first and second joints including a connecting portion, a bottom portion, and an engaging edge portion, the connecting portion, the bottom portion and the engaging edge portion forming a fitting groove, a protrusion being formed on a fitting groove side of the connecting portion, and the engaging edge portion is for being received into a fitting groove of an adjacent rolled sheet pile to form a pair of interfitted joints,

wherein a cross-sectional shape of said first and second joints is line-symmetric or point-symmetric, and said first and second joints are designed so that a center of a point of symmetry of the pair of interfitted joints is located on or near a centerline of said first and second end flanges, respectively, in a thickness direction, and said first and second joints are designed so that a contact surface formed between the engaging edge portions of the pair of interfitted joints is a line contact and an axis of the line contact inclines toward the protrusions of the pair of interfitted joints.
2. (Original) The rolled steel sheet pile according to claim 1, wherein a cross-section of the engaging edge portion widens toward an end thereof.

3. (Original) The rolled steel sheet pile according to claim 1, wherein the fitting grooves of said first and second joints open in opposite directions, said first and second joints are located so that the cross-sections are point-symmetric, said first and second end flanges are connected to first and second webs, respectively, and the first and second webs are connected to each other via a central flange located therebetween.

4. (Original) The rolled steel sheet pile according to claim 1, wherein the fitting grooves of said first and second joints open in the same direction, said first and second end flanges are approximately parallel and are connected via a web which is non-parallel to said first and second end flanges.

5. (Original) The rolled steel sheet pile according to claim 1, wherein said rolled steel sheet pile is hat-shaped in cross-section and includes a central flange and first and second webs, said first web extending between and connecting one end of said central flange to said first end flange and said second web extending between and connecting an opposite end of said central flange to said second end flange.

6. (Original) The rolled steel sheet pile according to claim 1, wherein said rolled steel sheet pile is Z-shaped in cross-section and includes a web, one end of said web is connected to said first end flange and an opposite end of said web is connected to said second end flange.

7. (Original) The rolled steel sheet pile according to claim 1, wherein a centerline of each of said first and second end flanges is generally co-axial with respective end flanges of adjacent rolled steel sheet piles when said rolled steel sheet pile is engaged with the adjacent rolled steel sheet piles to form pairs of interfitted joints.

8. (Currently Amended) A metal sheet pile, comprising:
first and second end flanges; and
first and second joints formed at an edge of said first and second end flanges, respectively, each of said first and second joints including a fitting groove formed therein, and a protrusion extending into the fitting groove,
wherein a cross-sectional shape of said first and second joints is line-symmetric or point-symmetric, and said first and second joints are designed so that a center of a point of symmetry is located on or near a centerline of said first and second end flanges, respectively, in a thickness direction when the metal sheet pile is engaged with an adjacent metal sheet pile to form a pair of interfitted joints, and said first and second joints are designed so that a contact surface formed between the pair of interfitted joints is a line contact and an axis of the line contact inclines toward the protrusions of the pair of interfitted joints.

9. (Original) The metal sheet pile according to claim 8, wherein each of said first and second joints includes a connecting portion, a bottom portion, and an engaging edge portion, the connecting portion, the bottom portion and the engaging edge portion forming

said fitting groove, and said protrusion is formed on a fitting groove side of the connecting portion.

10. (Original) The metal sheet pile according to claim 8, wherein a cross-section of the engaging edge portion widens toward an end thereof.

11. (Original) The metal sheet pile according to claim 8, wherein the fitting grooves of said first and second joints open in opposite directions, said first and second joints are located so that the cross-sections are point-symmetric, said first and second end flanges are connected to first and second webs, respectively, and the first and second webs are connected to each other via a central flange located therebetween.

12. (Original) The metal sheet pile according to claim 8, wherein the fitting grooves of said first and second joints open in the same direction, said first and second end flanges are approximately parallel and are connected via a web which is non-parallel to said first and second end flanges.

13. (Original) The metal sheet pile according to claim 8, wherein said metal sheet pile is hat-shaped in cross-section and includes a central flange and first and second webs, said first web extending between and connecting one end of said central flange to said first

end flange and said second web extending between and connecting an opposite end of said central flange to said second end flange.

14. (Original) The metal sheet pile according to claim 8, wherein said metal sheet pile is Z-shaped in cross-section and includes a web, one end of said web is connected to said first end flange and an opposite end of said web is connected to said second end flange.

15. (Currently Amended) The ~~rolled steel~~ metal sheet pile according to claim 8, wherein a centerline of each of said first and second end flanges is generally co-axial with respective end flanges of adjacent metal sheet piles when said metal sheet pile is engaged with the adjacent metal sheet piles to form pairs of interfitted joints.

16. (New) The rolled steel sheet pile according to claim 1, wherein the fitting grooves of said first and second joints open in opposite directions.

17. (New) The metal sheet pile according to claim 8, wherein the fitting grooves of said first and second joints open in opposite directions.

18. (New) The rolled steel sheet pile according to claim 1, wherein said first and second end flanges are connected to first and second webs, respectively, the first and second webs are connected to each other via a central flange located therebetween.

19. (New) The metal sheet pile according to claim 8, wherein said first and second end flanges are connected to first and second webs, respectively, the first and second webs are connected to each other via a central flange located therebetween.

20. (New) A rolled steel sheet pile, comprising:

a first end flange and a second end flange, said first and second end flanges being connected to first and second webs, respectively, and the first and second webs are connected to each other via a central flange located therebetween;

a first joint formed at an edge of said first end flange; and

a second joint formed at an edge of said second end flange, each of said first and second joints including a connecting portion, a bottom portion, and an engaging edge portion, the connecting portion, the bottom portion and the engaging edge portion forming a fitting groove, a protrusion being formed on a fitting groove side of the connecting portion, and the engaging edge portion is for being received into a fitting groove of an adjacent rolled sheet pile to form a pair of interfitted joints,

wherein a cross-sectional shape of said first and second joints is point-symmetric, said first and second joints are designed so that a center of a point of symmetry of the pair of interfitted joints is located on or near a centerline of said first and second end flanges, respectively, in a thickness direction, and the fitting grooves of said first and second joints open in opposite directions.